

What is claimed is:

1. A method of performing a shoulder replacement procedure on a patient, comprising the steps of:
 - resecting a greater tubercle of a humerus of said patient;
 - 5 implanting a stem component into a medullary canal of said humerus of said patient; and
 - securing a prosthetic head component to a proximal end portion of said stem component, said prosthetic head component having a glenoid-bearing portion and an acromion-bearing portion,
 - 10 wherein subsequent to said implanting step and said securing step
 - (i) said glenoid-bearing portion of said prosthetic head component is configured to bear against a glenoid surface of a scapula of said patient,
 - and (ii) said acromion-bearing portion of said prosthetic head component is configured to bear against an acromion of said patient during abduction
 - 15 of said humerus.
2. The method of claim 1, further comprising the step of resecting a head of said humerus of said patient prior to said implanting step.

3. The method of claim 2, wherein subsequent to said implanting step and said securing step:

said glenoid-bearing portion of said prosthetic head component corresponds to said head of said humerus, and

5 said acromion-bearing portion of said prosthetic head component corresponds to said greater tubercle of said humerus.

4. The method of claim 1, wherein said glenoid surface of said scapula includes a natural glenoid surface of said scapula.

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5. The method of claim 1, wherein said glenoid surface of said scapula includes a prosthetic glenoid surface secured to said scapula.

6. The method of claim 1, wherein said acromion-bearing portion
15 of said prosthetic head component is configured to bear against an inferior surface of said acromion of said patient during abduction of said humerus.

7. The method of claim 1, wherein:

said glenoid-bearing portion and said acromion-bearing portion of
said prosthetic head component define an outer bearing surface,

said outer bearing surface extends in a medial/lateral direction

5 across a radial distance D, and

$D \geq 190^\circ$.

8. A modular prosthetic assembly for use during performance of a shoulder replacement procedure on a patient, comprising:

a stem component configured to be implanted into a medullary canal of a humerus of said patient; and

5 a prosthetic head component configured to be secured to a proximal end portion of said stem component, wherein said prosthetic head component has (i) a glenoid-bearing portion which is configured to bear against a glenoid surface of a scapula of said patient when (a) said stem component is implanted into said medullary canal of said humerus of
10 said patient, and (b) said prosthetic head component is secured to said stem component, and (ii) an acromion-bearing portion which is configured to bear against an acromion of said patient during abduction of said humerus when (a) said stem component is implanted into said medullary canal of said humerus of said patient, and (b) said prosthetic head
15 component is secured to said stem component,

wherein (i) said glenoid-bearing portion and said acromion-bearing portion of said prosthetic head component define an outer bearing surface, (ii) said outer bearing surface extends in a medial/lateral direction across a radial distance D, and (iii) $D \geq 190^\circ$.

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9. The assembly of claim 8, wherein said glenoid-bearing portion of said prosthetic head component is configured to correspond to a head of said humerus when (i) said head of said humerus of said patient is resected, (ii) said stem component is implanted into said medullary canal of said humerus of said patient, and (iii) said prosthetic head component is secured to said stem component.

10. The assembly of claim 8, wherein said acromion-bearing portion of said prosthetic head component is configured to correspond to a greater tubercle of said humerus when (i) said greater tubercle of said humerus of said patient is resected, (ii) said stem component is implanted into said medullary canal of said humerus of said patient, and (iii) said prosthetic head component is secured to said stem component.

11. The assembly of claim 8, wherein said glenoid-bearing portion of said prosthetic head component is configured to bear against a natural glenoid surface of said scapula of said patient when (i) said stem component is implanted into said medullary canal of said humerus of said patient, and (ii) said prosthetic head component is secured to said stem component.

12. The assembly of claim 8, wherein said glenoid-bearing portion of said prosthetic head component is configured to bear against a prosthetic glenoid surface secured to said scapula of said patient when (i) said stem component is implanted into said medullary canal of said humerus of said patient, and (ii) said prosthetic head component is secured to said stem component.

13. The assembly of claim 8, wherein said acromion-bearing portion of said prosthetic head component is configured to bear against an inferior surface of said acromion of said patient during abduction of said humerus when (i) said stem component is implanted into said medullary canal of said humerus of said patient, and (ii) said prosthetic head component is secured to said stem component.

14. A method of performing a shoulder replacement procedure on a patient, comprising the steps of:

resecting a greater tubercle of a humerus of said patient;

implanting a stem component into a medullary canal of said

5 humerus of said patient;

securing a prosthetic head component to a proximal end portion of said stem component, said prosthetic head component having a glenoid-bearing portion and an acromion-bearing portion;

10 positioning said glenoid-bearing portion of said prosthetic head component in bearing contact with a glenoid surface of a scapula of said patient; and

abducting said humerus so as to move said acromion-bearing portion of said prosthetic head component into bearing contact with an acromion of said patient.

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15. The method of claim 14, further comprising the step of resecting a head of said humerus of said patient prior to said implanting step.

16. The method of claim 15, wherein subsequent to said
implanting step and said securing step:

said glenoid-bearing portion of said prosthetic head component
corresponds to said head of said humerus, and

5 said acromion-bearing portion of said prosthetic head component
corresponds to said greater tubercle of said humerus.

17. The method of claim 14, wherein said positioning step includes
the step of positioning said glenoid-bearing portion of said prosthetic
10 head component in bearing contact with a natural glenoid surface of said
scapula.

18. The method of claim 14, wherein said positioning step includes
the step of positioning said glenoid-bearing portion of said prosthetic
15 head component in bearing contact with a prosthetic glenoid surface
secured to said scapula.

19. The method of claim 14, wherein said abducting step includes
the step of abducting said humerus so as to move said acromion-bearing
20 portion of said prosthetic head component into bearing contact with an
inferior surface of said acromion of said patient.

20. The method of claim 14, wherein:

said glenoid-bearing portion and said acromion-bearing portion of
said prosthetic head component define an outer bearing surface,

said outer bearing surface extends in a medial/lateral direction

5 across a radial distance D, and

$D \geq 190^\circ$.